

REMARKS

Applicant requests favorable reconsideration and allowance of this application in view of the foregoing amendments and the following remarks.

Claims 1-24 are pending in this application, with Claims 1, 8, 12, 19, 23, and 24 being independent. No claims have been amended, added or cancelled. No new matter has been added.

The specification has been amended to correct the informalities described in paragraphs 2 and 3 of the Official Action, dated April 15, 2003. Favorable consideration is requested.

Claims 1-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,659,664 (Kaja) in view of U.S. Patent No. 5,913,193 (Huang). Applicant respectfully traverses this rejection for the reasons discussed below.

As recited in independent Claim 1, the present invention is directed to a speech synthesis apparatus having a database for managing phonemic piece data, comprising a generating means, a search means, a re-search means, and a registration means. The generating means is for generating a second phoneme in consideration of a phonemic context for a first phoneme as a search target. The search means is for searching the database for phonemic piece data corresponding to the second phoneme. The re-search means is for generating a third phoneme by changing the phonemic context on the basis of the search result obtained by the search means, and re-searching the database for phonemic piece data corresponding to the third phoneme. Lastly, the registration means is for registering the search result obtained by the search means or the re-search means in a table in correspondence with the second or third phoneme.

Independent Claims 12 and 23 are directed to a control method and a computer readable memory, respectively, and correspond generally to Claim 1.

As recited in independent Claim 8, the present invention is directed to a speech synthesis apparatus for performing speech synthesis by using phonemic piece data managed by a database, comprising a storage means for storing a table for managing position information indicating a position of phonemic piece data in the database in correspondence with a phoneme obtained in consideration of a phonemic context made to correspond to the phonemic piece data and a calculation means for acquiring phonemic context information of a phoneme as a synthesis target and fundamental frequencies corresponding thereto and calculating an average of acquired fundamental frequencies. The apparatus also comprises a search means for searching a phoneme group corresponding to the phonemic context information from the table; an acquisition means for acquiring, from the table, position information of phonemic piece data corresponding to a predetermined phoneme of the phoneme group searched by the search means, on the basis of the average of fundamental frequencies calculated by the calculation means; and a changing means for acquiring phonemic piece data indicated by the position information, acquired by the acquisition means from the database, and changing a prosody of the acquired phonemic piece data.

Independent Claims 19 and 24 are directed to a control method and a computer readable memory, respectively, and correspond generally to Claim 8.

The Kaja patent relates to a method for speech synthesis with control parameters for controlling a speech synthesis device. The control parameters are stored in a matrix or a sequence list for each polyphone. However, Applicant submits that the cited art fails

to disclose or suggest at least the above-mentioned features of the independent claims.

In particular, the Kaja reference fails to disclose or suggest the novel feature of generating a second phoneme in consideration of a phonemic context for a first phoneme as a search target, as disclosed and claimed in independent Claims 1, 12, and 23 of the present application. The triphone suggested by the Kaja reference means merely using 3 phonemes and does not include a second phoneme generated in consideration of a phonemic context for a first phoneme as a search target.

Additionally, the Kaja reference fails to disclose or suggest a storage means for storing a table for managing position information indicating a position of phonemic piece data in the database in correspondence with a phoneme obtained in consideration of a phonemic context made to correspond to the phonemic piece data, as disclosed and claimed in independent Claims 8, 19, and 24 of the present application.

The Huang patent fails to compensate for the deficiencies of Kaja. In particular, the Huang patent fails to disclose or suggest generating a second phoneme in consideration of a phonemic context for a first phoneme as a search target. Moreover, Huang does not disclose or suggest a storage means for storing a table for managing position information indicating a position of phonemic piece data in the database in correspondence with a phoneme obtained in consideration of a phonemic context made to correspond to the phonemic piece data.

Accordingly, Applicant submits that each of the independent claims is patentable over the cited art, whether that art is considered individually or taken in combination.

The dependent claims recite additional features that further distinguish the

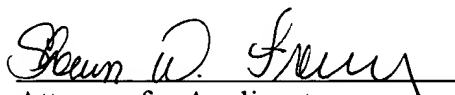
present invention from the cited art. Individual consideration of the dependent claims is respectfully requested.

In view of the foregoing, Applicant submits that this application is in condition for allowance. Favorable consideration and withdrawal of the rejection set forth in the above-mentioned Official Action, and a Notice of Allowance are respectfully requested.

Further to the "Request for Acknowledgment of Claim to Priority And Filing of Certified Copy of Priority Documents" filed on May 19, 2003, Applicant again respectfully requests acknowledgment of the Claim to Priority filed on August 19, 1999. If such document was not received, Applicant requests notification so that Applicant's representative can forward copies of the Claim to Priority along with the stamped postcard receipt.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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